

Appendix

Curriculum Vita of William P. Zarakas

William P. Zarakas is an economist with expertise in economic, strategic and regulatory analyses in the telecommunications and utility industries, and has worked extensively with telecommunications carriers, utilities, industry associations, regulatory commissions, corporate entities, and various governmental bodies around the world. His work in the telecommunications industry has included analyses associated with business case and economic feasibility; valuations of wireless spectrum and wireline networks; industry structure; market share and competition; regulatory frameworks; network access and unbundling; cost and pricing; cross subsidization; universal service and provider-of-last-resort; rate structure; productivity; as well as affiliate structure and transfer pricing. Mr. Zarakas has also worked in the analyses of emerging telecom providers, including emerging transport carriers, competitive local exchange carriers (CLECs) and electric utility entry into telecommunications markets. His work in this area has included the feasibility of deploying broadband networks, market segmentation and revenue projections, capital and operating cost analysis, margin analysis, and business case development.

Mr. Zarakas has also worked in the utility industry, in the areas of mergers, acquisition and divestiture; cost and rates; market size; and affiliate structure and transfer pricing. Mr. Zarakas has provided testimony and reports used in regulatory proceedings concerning the efficiencies anticipated to be gained or lost as a result of utilities mergers and divestitures; economic feasibility, rate and cost-of-service analysis; and affiliate structure, cost allocation and transfer pricing.

Mr. Zarakas has testified before state and federal regulatory commissions, and has authored reports submitted to the U.S. Securities and Exchange Commission as well as to state regulatory commissions. He has also headed numerous regulatory and management and operations audits of utilities and telephone companies, performed on behalf of state regulatory commissions.

Prior to joining *The Brattle Group*, Mr. Zarakas was a Member of PA Consulting's Management Group and was a Senior Vice President at PHB Hagler Bailly. Prior to his tenure with PHB Hagler Bailly, Mr. Zarakas was a Managing Director with Theodore Barry & Associates (TB&A) in charge of the firm's telecommunications practice, and a member of TB&A's Board of Directors. Mr. Zarakas was also an Economist for the New York Power Authority and a Consultant for Ebasco Business Consulting Company.

Mr. Zarakas received his M.A. in Economics from New York University and his B.A. in Economics from the State University of New York.

AREAS OF EXPERTISE

Telecommunications

- Directed, authored reports, and/or provided expert testimony in cases involving valuation of wireless spectrum. Cases involved applying market comparable, discounted cash flow (DCF) and econometric-based analyses. Cases also involved detailed analysis of market composition, services and prices.
 - Report author concerning market comparable analysis of U.S. PCS market.
 - Testifying expert regarding potential value of wireless spectrum in the 700 MHz band.
 - Report author regarding estimating value of wireless spectrum designated (by the FCC) as Mobile Satellite Service (MSS) spectrum.
 - Report author concerning valuations of wireless spectrum in the Middle East - North African region for an international wireless operator.
 - Report author and expert concerning impact of additional wireless operators on spectrum values for the telecommunications regulator for a Middle Eastern country.
- Author of white paper (on behalf of an international wireless operator) which analyzes the relationships between the number of telecommunications operators in mobile markets and levels of short-term and long-term consumer welfare, using a panel of mobile markets in approximately 50 countries.
- Engagement Director and report author for study of the impact of spectrum licensing regimes and property rights on economic efficiency in mobile telecommunications markets.
- Engagement Director and expert for multi-country analysis of originating and terminating tariffs in mobile telecommunications markets.

- Engagement Director for multiple valuation analyses of telecommunications assets and businesses. Projects included valuations of wireless spectrum and optical fiber networks in multiple markets worldwide. Projects required comprehensive discounted cash flow and net present value analyses, as well as regression and statistical analyses of comparable market transactions. Projects resulted in valuations used in support of negotiations and/or in commercial and/or regulatory proceedings.
- Engagement Director and white paper author of project analyzing the empirical relationships between the price of wholesale access and levels of investment in the U.S. wireline telecommunications market.
- Engagement Director and report author for forensic analysis of the economics, financial reporting and accounting associated with the bankruptcy of a major international telecommunications provider. Project involved contemporaneous review and analysis of market structure and trends, capacity and pricing projections in international markets, and the appropriateness of accounting for major transactions. Project also involved econometric event study analysis, estimating the impact that quarterly earnings announcements had on equity prices and enterprise value. Study was used by counsel and the Board of Directors.
- Engagement Director, Lead Consultant and Expert Witness for multiple cost and rate analyses. Work included cost modeling, cost allocations, and revenue modeling on behalf of carriers and regulators.
- Engagement Director for analysis of wholesale access performance measurement systems for a U.S. Regional Bell Operating Company. Project scope included analysis of the statistical validity of performance measures applied to the RBOC as a result of agreements made between the RBOCs and regulators as part of the approval of RBOCs into long distance businesses (*i.e.*, as part of proceedings concerning Section 271 of the Telecommunications Act of 1996) or are the outcome of negotiations among various parties regarding proposed mergers. Work focused on detailed statistical testing of performance measures to determine whether measures reflected RBOC performance and supported regulatory goals of increased consumer welfare in local exchange markets.
- Engagement Director, Lead Consultant and Expert Witness for comprehensive analysis of unbundled network elements (UNEs), undertaken in fulfillment of requirements

associated with the Telecommunications Act of 1996, using the Total Element Long Run Incremental Cost (TELRIC) methodology. Scope of work spanned all unbundled network elements, field-tested technology applications, and geographic specific network and demographic characteristics. Testimony regarding TELRIC costs were presented to state regulatory commissions in eight states.

- Engagement Director and report author for multiple engagements concerning estimation of economic losses associated with damages to telecommunications businesses and/or assets. Projects involved analysis of changes in market values as a result of price volatility and market restructuring. Projects also involved damages associated with cable breaks and/or disruption of wholesale transport businesses.
- Engagement Director for comprehensive analysis of local exchange telecommunication market composition and feasibility of competitive entrant success under multiple market entry strategies. Analysis required detailed modeling of ILEC and CLEC market shares and cost structures.
- Engagement Director and report author for economic analysis of damages associated with accidental break in a fiber optic cable. Analysis required modeling of SONET ring traffic and costs of replacing a portion of the ring using available alternative services. Study was used in state court proceeding.
- Engagement Director and Lead Consultant for a comprehensive analysis of the current level and projections of market shares and competition in the consumer and business markets of an RBOC's local exchange area. Scope of work included segmentation of geographic markets, customers (business and consumer), competitors (facilities- and non-facilities-based), and technologies. Analysis employed scenario-based methodologies. Conclusions involved future market shares on a segment basis, as well as the impact of declining market shares upon RBOC revenue streams and margins by customer class, geography and product line. Report used in a regulatory proceeding before a state regulatory commission.
- Engagement Director and Lead Consultant for multiple projects involving analyses of regulatory framework options that could be applied to the local exchange telecommunications industry. Scope of work included theoretical and quantitative analysis of earnings-based and price-based incentive rate plans. Scope also included

development of productivity offset options to be included in price cap formulas. Work was used in testimony delivered before multiple state regulatory commissions.

- Engagement Director for analysis of access pricing options, performed on behalf of an RBOC. Scope of work also included the analysis of "flow-through" of RBOC access rate reductions through inter-exchange carriers, ultimately to end-use consumer and business customers. Study included analysis of calling patterns, discount plans and surveys of end-use customers in multiple geographies. Conclusions were used in several state regulatory proceedings concerning intra-state access pricing.
- Engagement Direct, Lead Consultant and Expert Witness in the determination of the rates for pole attachments under the FCC's Cable Rate and Telecom Rate Formulas as applied to electric utility distribution assets. Scope of work included development of utility-specific data in place of FCC rebuttable presumptions based on following the FCC's requirements for introduction of statistical data (47 CFR §1.363).
- Engagement Director of demand analysis for telecommunications services by business and enterprise customers, performed on behalf of a state legislative body. Scope included customer segmentation of the state's telecommunications market and market research and analysis regarding prospective telecommunications platforms and products. Report was included in legislative deliberations in developing the state telecommunications legislation.
- Lead Consultant for study of affiliate transactions and cost allocations between an RBHC and its affiliated RBOC. Scope of analysis included all services provided to the RBOC by the RBHC through its service company. Study required the assessment of services following the "Rio Grande Test": necessity, duplication, placement, and cost allocation of the corporate-provided services. Report filed in a state regulatory proceeding.
- Engagement Director, Lead Consultant and Expert Witness for analysis of an RBOC's productivity improvement initiatives and development of productivity offset used in intra-state telephone rates, performed on behalf of a state regulatory commission. Scope of work included analysis of empirical total factor productivity and development of adjusted TFP based on projections associated with RBOC restructuring and ongoing performance improvement and re-engineering initiatives. Work included detailed

analysis of efficiency improvement initiatives in network deployment, operations, customer service and marketing.

- Engagement Director and Lead Consultant for comprehensive analysis of affiliate relationships, cost allocations and transfer pricing, performed on behalf of an RBOC. Scope included all regulated and unregulated affiliates as well as corporate support functions. Scope of work included service, cost and information transfers, organizational and management controls and the allocation of common and corporate costs provided by affiliates to the regulated operating companies. Scope also included assessing the effectiveness and accuracy of the company's cost allocation processes. Report was filed before several state regulatory commissions and the Federal Communications Commission.
- Engagement Director and Lead Consultant for analysis of universal service and provider-of-last-resort options which could be applied to U.S. telecommunications industry, performed on behalf of an RBOC. Scope of work included development of support options and quantification of funding from multiple classes of telecommunications providers. Report was filed in response to a Notice of Proposed Rulemaking (NPR) by the Federal Communications Commission.
- Engagement Director and Lead Consultant for strategy development and market positioning study for an infrastructure support company, providing project management services to the telecommunications, collocation and data center industries. Scope of work included market and competitive analyses, and development of service offerings and prices.
- Engagement Director and Lead Consultant for multiple management and operations and focused regulatory audits of several telecommunications carriers and utilities conducted on behalf of numerous state regulatory commissions. Scope of regulatory studies included: analysis of ILEC management and operations performance; assessment of ILEC programs in support of commission objectives concerning the development of competition in the local exchange; analysis of ILEC affiliate structures and transfer pricing; analysis of cross-subsidization; analysis of the effects of introduction of alternative regulatory frameworks upon ILEC investment levels and network deployment plans, operational performance, cost structures, service offerings and quality of service.

Reports were used by regulatory commissions in regulatory proceedings and/or in policy deliberations.

- Engagement Director and Lead Consultant for a study of ILEC preparedness for and potential consequences of increasing competition in a local exchange telecommunications market, performed on behalf of a state regulatory commission. Scope of work included analyses of consumer and business market segments for basic and advanced (*i.e.*, broadband) telecommunications services, ILEC strategic and marketing plans, and the role of pricing flexibility and alternative regulatory framework in developing pricing flexibility and other ends. Work included detailed modeling of revenue projections, margins, and contributions by geographic and product lines, as well as assessment of ILEC network, strategic, and marketing planning processes. Report used in commission network competition proceedings.
- Project Manager and Lead Consultant for a study of the impact of alternative regulatory frameworks on ILEC deployment of advanced telecommunications services, performed on behalf of a state regulatory commission. Scope of work included empirical analysis of changes in ILEC planning, service deployment and service pricing. Work involved detailed review of ILEC network and service plans, and modeling of status quo and alternative ILEC strategies.
- Project Manager and Lead Consultant of a study of the impact of competition and open network access cost on intraLATA toll prices, performed for an RBOC. Scope of work included analysis of margins and contributions for ILEC voice services.
- Engagement Director and Lead Consultant of study of publishing spin-off options, performed for an RBOC. Scope of work included valuation of yellow page profits, considering current regulatory imputation of yellow pages revenues and costs into ILEC rates.

Utility-Telecom

- Engagement Director and Practice Leader for multiple projects and utility clients concerning the development of telecommunications strategies. Scope of work included analysis of numerous business and technology options, including: long-haul and regional transport, metropolitan area networks, dense metro build-outs, retail competitive local

exchange carriers, wireless services and integrated retail service providers. Analysis included detailed business case modeling (including customer, competitor and pricing analysis), customer and demographic analysis, and preliminary network design and costing. Work also included development of business structure, partnerships and joint-venture options, and market segmentation and targeting.

- Engagement Director for multiple projects and utility clients concerning development of infrastructure support to telecommunications carriers. Scope included optimization of utility assets and resources, including dark fiber construction, pole attachments by ILEC, CLEC and CATVs, attachment to utility transmission towers by wireless operators, and wireless collocation opportunities. Work included geographic-specific market and financial projections and business case analysis.
- Engagement Director and Lead Consultant for utility telecommunications integration strategy, performed on behalf of a major U.S. electric utility. Scope of work included analysis of multiple lines of telecommunications businesses, including transport, wholesale metro access, wireless operations, and infrastructure support. Work included determination of synergies, development of stand-alone and integrated balance sheets and income statements, and determination of shareholder value impact.
- Lead Technical Advisor to an Asian electric utility concerning strategies to deploy a broadband telecommunications network in Asia. Scope of work included analysis of telecommunications options and experiences of U.S. and European electric utilities in entering the telecommunications market. Work also included development of transfer pricing methodologies regarding the use of utility assets, resources and easements by the telecommunications affiliate.
- Engagement Director of comprehensive business case analysis of electric utility entry into the "last mile" broadband market, performed on behalf of a major U.S. electric utility. Scope of work included consideration of telephony, internet, CATV, video-on-demand and other areas of content, as well as demand side management, metering and essential inter-utility services. Work included analyses of technology alternatives and detailed business case modeling, including customer and geographic segmentation, pricing scenarios and elasticity analysis.

Utility

- Engagement Director, Lead Consultant on multiple studies of prospective merger savings and divestiture losses for electric and gas utilities. Scope of work included analyses involved in determining the operating and capital impacts of mergers under multiple scenarios, and also involved the anticipated economic inefficiencies resulting from forced divestiture. Reports authored included studies of merger efficiencies and reports concerning Economic Loss Studies included in U-1 filings before the U.S. Securities and Exchange Commission. Economic Loss Studies are required under PUHCA Section 11 (b) (1) Clauses A, B, and C when utility merger results in the establishment of a registered holding company with electric and gas businesses. Work in these areas included detailed analyses of current and hypothetical future electric and gas utility operations.
- Engagement Director and Lead Consultant for shareholder value study for a U.S. electric utility. Scope of work included segmentation of core and affiliate businesses, revenue and operating and capital cost analysis, revenue and cost projections, cost-of-capital and determination of contribution to shareholder value. Work was critical element of utility holding company strategy and 5-year financial plan.
- Project Manager and Lead Consultant for multiple financial analyses and economic feasibility studies of new business opportunities for electric and gas utilities. Scope of work included development of detailed business case analyses for new technology commercialization, including, and fuel cell and distributed generation technologies and alternative fuel transportation, such as natural gas vehicles (NGVs) and electric vehicles. Analyses included assessment of technology-future, capital requirements, and cost structure, as well as detailed demand projections, customer segmentation analysis, and take-rate and revenue projections.
- Engagement Director and Advisor To Board for a comprehensive strategic analysis of a major Generation and Transmission cooperative and its member electric distribution cooperatives. Scope included asset valuation of G&T generation and transmission assets, development of risk management strategy, determination of roles and relationships between G&T and member cooperatives, development of merger and acquisition options, and outlook for retail electric markets. Work included detailed financial and economic modeling, based on scenario analyses.

- Engagement Director and Advisor To Board for comprehensive strategic planning project for major Generation and Transmission cooperative and its member electric distribution cooperatives. Scope included analysis of power supply, joint power plant ownership and purchased power contracts, as well as T&D Board of Director organization and governance. Work included development of corporate financial model and capital budgeting process.
- Engagement Director and Lead Consultant for study of the applicability of alternative regulatory frameworks used in the local exchange telecommunications industry to the electric utility industry, performed on behalf of a U.S. electric utility. Scope of work included review of ILEC regulatory frameworks in all U.S. states and at the inter-state level, development of comparability matrix aligning ILEC metrics with electric utility metrics, development of multiple hypothetical alternative regulatory frameworks, and quantification of associated hypothetical rates, balance sheets and income statements.
- Project Manager and Lead Consultant of a pricing and regulatory framework strategy project, performed for the electric business unit of a major east coast combination utility. Engagement involved research and analysis of regulatory and pricing frameworks (interstate and intrastate) applied to energy and telecommunications companies in the U.S. and in countries which recently privatized those markets. Frameworks were then compared to electric business unit current and prospective products and customers. Project resulted in recommendation of pricing framework which best accomplished short- and long-term objectives.
- Engagement Director, Lead Consultant and Expert Witness for multiple studies of affiliate transfer pricing, corporate overhead allocation, cost allocation, and cross-subsidization, performed on behalf of electric utilities and regulatory commissions. Scope of work included assessment of cost allocation methodologies, affiliate and service level agreements and determination of cross-subsidization. Work involved assessment of utility cost allocation systems and design of and/or selection of cost allocators. Work also involved rebuttal of testimony concerning affiliate transfer pricing in state regulatory proceedings.
- Engagement Director and Lead Consultant of affiliate transfer pricing analysis and market test study for a U.S. multi-state gas utility company. Scope of work included performing a market test of affiliate services provided to the utility, based on commission

asymmetrical transfer pricing rule, requiring that affiliate services provided to the utility be transferred at the lower of fully allocated costs or the market prices associated with external provision, and provision of services from the utility to its unregulated affiliates to be transferred at the higher of those two metrics. Work included definition of affiliate services, determination of fully allocated costs, and acquisition of market-based prices. Report used in state regulatory proceeding.

- Engagement Director for project developing comprehensive business separation and affiliate safeguards regarding flow of information, systems access, marketing controls, employee and intellectual transfers and cost allocations for a large U.S. utility. Scope of work included all aspects of regulated and unregulated operations, including energy (electric and gas) trading, service company functions, and retail marketing. Project was initiated to ensure efficient compliance with regulatory commission affiliate standards.
- Lead Consultant for multiple retrospective analyses of major utility capital investment. Scope of work included analysis of ongoing capital cost estimates and access to capital for financing. Report was filed by the utilities as part of their defense in shareholder and derivative litigation.
- Consultant and Lead Analyst on cost-of-service and economic feasibility studies, performed on behalf of multiple electric and gas utilities. Scope of work included forecasting of electric demand and consumption, classification of utility operating and capital costs, development of depreciation and determination of cost of capital. Reports were used in utility rate cases before state and federal regulatory commissions.
- Consultant and Lead Analyst on asset valuation project on generation, transmission and distribution assets for a U.S. municipal electric utility. Scope of work included determination of original, trended original and replacement costs, as well as development of depreciation costs. Report was used in development of utility 10-year financial plan and in developing electric rates.
- Consultant and Lead Analyst for valuation of utility assets, performed on behalf of a U.S. gas utility. Scope of work included development of original, trended original and replacement costs, as well as development of depreciation costs using average and unit summation methods. Report was used as part of proceeding on municipal special franchise taxes.

- Engagement Advisor of shareholder value analysis-based strategic planning for an east coast electric utility. Engagement required analysis of new and potential markets for core and non-core utility services, pricing strategies, underlying costs, and regulatory options. Project resulted in an integrated strategy focusing market objectives with pricing and regulatory objectives.
- Technical Advisor advising consulting team responsible for developing affiliate, business separation and cost allocation case for a southeastern U.S. electric utility holding company. Case involved defense of the need for affiliate services, the fairness of pricing, and the appropriateness of cost allocations as applied to the service company's work orders.
- Lead Consultant for a comprehensive process analysis for the marketing, sales and customer service functions of a U.S. electric utility. Scope of work market forecasting, market strategy, marketing management, and product and geographic management. Work included economic analysis of marketing function, bench marking, determination of financial and performance metrics, design of marketing process, and architecture for supporting information systems.
- Lead Consultant for a comprehensive performance improvement and process re-engineering project of the customer service, energy efficiency, and marketing functions for a U.S. electric utility company. Scope of work included the market research and planning, marketing programs, sales, and energy efficiency functions. Work included the design and modeling of marketing and energy efficiency business processes, as well as quantification of impact of improvement opportunities on utility performance. Work also included revenue and margin analysis of marketing initiatives, geographic impacts, value analysis, and interaction of the utility's strategic planning and marketing planning.
- Lead Consultant for an organizational study for a U.S. utility. Scope of work included the finance, accounting, administrative and corporate support functions. Work included determining functional roles, relationships and interactions; bench marking and determining best industry practices; designing process flow options; determining capital and resource requirements associated with process improvement; and quantification of cost/benefits.

INDUSTRY EXPERIENCE

Economist, New York Power Authority

Performed multiple cost-of-service analyses for NYPA and NYPA-regulated municipal and cooperative electric utilities.

Performed load forecasts and demand analysis.

Developed regulatory framework for New York municipal electric utilities, including assessment of reporting requirements and regulations.

Developed competitive pricing strategies, implemented stabilization plans, and analyzed rate shocks.

Performed management audits of NYPA-served municipal and rural cooperative electric systems.

Developed NYPA's competitive intelligence used to determine industrial marketing strategies and power contract negotiations.

TESTIMONY

Before the U.S. House of Representatives Committee on Energy and Commerce and the U.S. Senate Committee on Commerce, Science and Transportation regarding the value of wireless spectrum in the 700 MHz band. Letters, May 18, 2005.

Before the Federal Communications Commission in the matter of *Virginia Cable Telecommunications Association v. Virginia Electric and Power Company, d/b/a Dominion Virginia Power and Dominion North Carolina Power*, PA No. 01-005, December 21, 2001.

Before the U.S. Securities and Exchange Commission included in Form U-1 Application/Declaration Under The Public Utility Holding Company Act of 1935 in the combination of Energy East Corporation with RGS Energy Group, Inc. (June 20, 2001) in Exhibit J-1, entitled "Analysis Of The Economic Impact Of A Divestiture Of The Gas Operations Of Rochester Gas And Electric Corporation," May 15, 2001.

Before the U.S. Securities and Exchange Commission included in Form U-1 Application/Declaration Under The Public Utility Holding Company Act of 1935 in the acquisition by Sierra

Pacific Resources of Portland General Electric Company, 2000 in Exhibit H-1, entitled "Analysis Of The Economic Impact Of A Divestiture Of The Gas Operations Of Sierra Pacific Resources," January 31, 2000.

Before the U.S. Securities and Exchange Commission included in Form U-1 Application/Declaration Under The Public Utility Holding Company Act of 1935 in the combination of Energy East Corporation with CMP Group, Inc. and with CTG Resources, Inc. in Exhibit J-1, entitled "Analysis Of The Economic Impact Of A Divestiture Of The Gas Operations Of Energy East," October 29, 1999.

Before the Supreme Court of the State of New York, County of Niagara, Supplemental Affidavit in *Village of Bergen, et al. vs. Power Authority of the State of New York*, February 1999.

Rebuttal Panel Testimony of William P. Zarakas and D. Daonne Caldwell before the North Carolina Utilities Commission, Docket No. P-100, SUB 133D, Filed March 9, 1998; *In Re: Proceeding to Determine Permanent Pricing for Unbundled Network Elements*.

Direct Panel Testimony of William P. Zarakas and D. Daonne Caldwell before the North Carolina Utilities Commission, Docket No. P-100, SUB 133D, Filed December 15, 1997; *In Re: Proceeding to Determine Permanent Pricing for Unbundled Network Elements*.

Rebuttal Panel Testimony of William P. Zarakas and D. Daonne Caldwell before the South Carolina Public Service Commission, Docket No. 97-374-C, Filed November 25, 1997; *In Re: Proceeding to Review BellSouth Telecommunications, Inc.'s Cost Studies for Unbundled Network Elements*.

Direct Panel Testimony of William P. Zarakas and D. Daonne Caldwell before the Florida Public Service Commission, Docket Nos. 960757-TP/960833-TP/960846-TP/960916-TP/971140-TP, Filed November 13, 1997; *In Re: Petition of AT&T, MCI, and MFS for Arbitration with BellSouth Concerning Interconnection, Rates, Terms and Conditions of a Proposed Agreement*.

Direct Panel Testimony of William P. Zarakas and D. Daonne Caldwell before the South Carolina Public Service Commission, Docket No. 97-374-C, Filed November 3, 1997; *In Re: Proceeding to Review BellSouth Telecommunications, Inc.'s Cost Studies for Unbundled Network Elements*.

Rebuttal Panel Testimony of William P. Zarakas and D. Daonne Caldwell before the Tennessee Regulatory Authority, Docket No. 97-01262, Filed October 17, 1997; *In Re: Contested Cost Proceeding to Establish Final Cost Based Rates for Interconnection and Unbundled Network Elements*.

Direct Panel Testimony of William P. Zarakas and D. Daonne Caldwell before the Tennessee Regulatory Authority, Docket No. 97-01262, Filed October 10, 1997; *In Re: Contested Cost*

Proceeding to Establish Final Cost Based Rates for Interconnection and Unbundled Network Elements.

Rebuttal Panel Testimony of William P. Zarakas and D. Daonne Caldwell before the Alabama Public Service Commission, Docket No. 26029, Filed September 12, 1997; *In Re: Generic Proceeding: Consideration of TELRIC Studies.*

Rebuttal Panel Testimony of William P. Zarakas and D. Daonne Caldwell before the Georgia Public Service Commission, Docket No. 7061-U, Filed September 8, 1997; *In Re: Review of Cost Studies, Methodologies and Cost-Based Rates for Interconnection and Unbundling of BellSouth Telecommunications Services.*

Rebuttal Panel Testimony of William P. Zarakas and D. Daonne Caldwell before the Louisiana Public Service Commission, Docket Nos. U-22022/22093, Filed September 5, 1997; *In Re: Review of Consideration of BellSouth Telecommunications, Inc.'s TSLRIC and LRIC Cost Studies to Determine Cost of Interconnection Services and Unbundled Network Components, to Establish Reasonable, Non-Discriminatory, Cost-Based Tariff Rates.*

Direct Panel Testimony of William P. Zarakas and D. Daonne Caldwell before the Alabama Public Service Commission, Docket No. 26029, Filed August 29, 1997; *In Re: Generic Proceeding: Consideration of TELRIC Studies.*

Direct Panel Testimony of William P. Zarakas and D. Daonne Caldwell before the Louisiana Public Service Commission, Docket Nos. U-22022/22093, Filed July 11, 1997; *In Re: Review of Consideration of BellSouth Telecommunications, Inc.'s TSLRIC and LRIC Cost Studies to Determine Cost of Interconnection Services and Unbundled Network Components, to Establish Reasonable, Non-Discriminatory, Cost-Based Tariff Rates.*

Direct Panel Testimony of William P. Zarakas and D. Daonne Caldwell before the Georgia Public Service Commission, Docket No. 7061-U, Filed April 30, 1997; *In Re: Review of Cost Studies, Methodologies and Cost-Based Rates for Interconnection and Unbundling of BellSouth Telecommunications Services.*

Before the Virginia State Corporation Commission on behalf of United Telephone - Southeast, Inc. and Centel Corporation, May 1994.

Before the Tennessee Public Service Commission on behalf of United Telephone - Southeast, Inc., Docket No. 93-04818, January 28, 1994.

Before the Florida Public Service Commission on behalf of Southern Bell Telephone & Telegraph Company, Docket No. 920260-TL, December 10, 1993.

Before the Tennessee Public Service Commission on behalf of South Central Bell, Docket Nos. 92-13527 and 93-00311, March 22 and March 29, 1993.

PUBLIC REPORTS

Analysis/Market Test of 1997 Affiliate Transactions, performed on behalf of Columbia Gas of Virginia and provided to the Virginia State Corporation Commission in its annual review of affiliate transactions, May 7, 1998. Updated in letter reports: April 27, 2000 and May 29, 2001.

Management Audit of GTE, performed on behalf of the Kentucky Public Service Commission, January 1997.

Analysis of Cost Allocation Methodology, performed on behalf of BellSouth Telecommunications in the matter of Allocation of Costs Associated with Local Exchange Carrier Provision of Video Programming Services before the Federal Communications Commission, FCC CC No. 96-112, May 31, 1996.

Stratified Management Audit of GTE, performed on behalf of the Pennsylvania Public Service Commission, 1995.

Potential Performance Gains Study of New York Telephone Company, performed on behalf of the New York Public Service Commission, August 1992; and, New York Telephone Company Potential Performance Gains Study - Track II: Reengineering Analysis, March 1994.

Analysis of Proposed Use of Estimated Fair Market Value, performed on behalf of BellSouth Telecommunications before the Federal Communications Commission, FCC CC No. 93-251, January 10, 1994.

Management Audit of Washington Gas Light, performed on behalf of the Maryland Public Service Commission, 1990.

Incentive Regulation Review of South Central Bell, performed on behalf of the Kentucky Public Service Commission, October 1990.

Management Audit of the Alabama Gas Corporation, performed on behalf of the Alabama Public Service Commission, 1989.

Management Audit of the Alabama Power Company, performed on behalf of the Alabama Public Service Commission, 1989.

PAPERS AND PRESENTATIONS

"Structural Simulation of Facility Sharing: Unbundling Policies and Investment Strategy in Local Exchange Markets," White Paper, July 2005 (with Glenn A. Woroch, Lisa V. Wood, Daniel L. McFadden, Nauman Ilias, and Paul C. Liu).

"Betting Against The Odds? Why broadband over power lines (BPL) can't stand alone as a high-speed Internet offering." *Public Utilities Fortnightly*, April 2005, pp. 41-45 (with Kenneth J. Martinian).

"The Impact of the Number of Mobile Operators on Consumer Benefit," White Paper, March 2005 (with Kenneth J. Martinian and Carlos Lapuerta).

"Wholesale Pricing and Local Exchange Competition", Info, Volume 6, Number 5, 2004, pp. 318-325 (with Lisa V. Wood and David E. M. Sappington).

"Regulatory Performance Measurement Plans and the Development of Competitive Local Exchange Telecommunications Markets", Working Paper, November 2003 (with David E. M. Sappington, Lisa V. Wood and Glenn A. Woroch).

Presenter of "Utilicomms in the U.S. Market: Outside of the Telecom Bubble", March 2002

Presenter of "FCC Pole Attachment Rates: Rebutting Some of the Presumptions", March 2002, Updated March 2003

Chairperson and presenter of "Cost Model Principles" at *The New Investment Theory of Real Options and Its Implications for the Cost Models in Telecommunications Conference*, Columbia University, New York City, New York, on October 2, 1998.

"Business Opportunities: In The Restructured Electricity Industry," presented at the *Business Opportunities and the Restructuring of the Electric Utility Industry - The Future Is Now! Conference*, Chicago, Illinois, on June 25, 1997.

"Utility Marketing Strategies: In Transition," presented at the *3rd Annual Utility Strategic Marketing Conference: Shaping the Competitive Environment*, Orlando, Florida, on April 16, 1996.

"Telecommunications: Enabler and New Business Opportunity," presented at the *3rd Annual Utility Strategic Marketing Conference: Shaping the Competitive Environment*, Orlando, Florida, on April 16, 1996.

"Electric Utilities As Telecommunications Providers," presented at the *Telecommunications Opportunities For Utilities Conference*, Los Angeles, California, on November 7, 1995.

William P. Zarakas
Principal

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“Assessing Market Potential: Utility Products,” presented at the *Western Energy & Communication Association Fall Conference*, Los Angeles, California, on September 23, 1993.



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REDACTED FOR PUBLIC INSPECTION

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)
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Petition of ACS of Anchorage, Inc. Pursuant to)
Section 10 of the Communications Act of 1934,)
as amended, for Forbearance from)
Sections 251(c)(3) and 251(d)(1))
In the Anchorage LEC Study Area)
)

WC Docket No. 05-281

DECLARATION OF
David E. M. Sappington

January 9, 2005

REDACTED FOR PUBLIC INSPECTION

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I, David Sappington, under penalty of perjury, state the following:

1. Introduction.

1. My name is David Sappington. I am the Lanzillotti-McKethan Eminent Scholar in the Warrington College of Business at the University of Florida. I am also the Director of the University's Public Policy Research Center. Since earning my Ph.D. in Economics from Princeton University in 1980, I have served on the professional staff of Bell Communications Research and on the faculties of the University of Michigan, the University of Pennsylvania, and the University of Florida. I also served as the Federal Communications Commission's Chief Economist in 2001 and 2002.

2. My research, which focuses on the design of regulatory policy in the telecommunications industry, has culminated in more than one hundred published articles. I presently serve on the editorial boards of five leading economics journals, and have served as an advisor to the U. S. Department of Justice, the World Bank, the New York State Public Service Commission, and CONATEL and OSIPTEL, the national telecommunications regulatory agencies in Ecuador and Peru, respectively. My curriculum vita is attached as an appendix to this statement.

3. The purpose of this declaration is to explain why forbearance from Sections 251(c)(3) and 252(d)(1) of the Telecommunications Act of 1996 ("the Act")¹ in the Anchorage LEC study area would: (1) produce unjust and unreasonable rates both for unbundled network elements ("UNEs") and for retail telecommunications services; (2) leave consumers vulnerable to the exercise of market power by ACS of Anchorage, Inc. ("ACS"); (3) facilitate anticompetitive behavior by ACS; (4) create poor incentives for full facilities-based operation by competitive local exchange carriers ("CLECs") throughout the United States; and, for all these reasons, (5) be contrary to the public interest. This declaration also explains why many of the arguments offered by ACS in support of forbearance are incorrect.

Brief Explanation of Conclusions

4. The Act constitutes a "pro-competitive, deregulatory national policy framework."² A central goal of the Act is to replace ongoing retail rate regulation with the discipline provided by

¹ Pub. L. No. 104-104, 110 Stat. 56, 47 U.S.C. § 151 *et seq.*

² *Joint Statement of Managers*, S. Conf. Rep. No. 104-230, 104th Cong. 2d Sess. 1 (1996) (Joint Explanatory Statement).

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sustained, robust competition.³ Competition can replace retail rate regulation only when the competition protects consumers by preventing incumbent local exchange carriers ("ILECs") from exercising market power, i.e., from raising prices above the costs of an efficient supplier of telecommunications services.

5. ACS asserts it lacks the ability to raise retail rates in Anchorage because General Communication, Inc. ("GCI") presently serves many customers in Anchorage. Even if retail market shares were a reliable measure of market power (which they are not), ACS' argument would be flawed in two important respects. First, current retail market shares in Anchorage reflect in large part the very regulatory policy that ACS seeks to abandon. Future market shares, like ACS' ability to exercise its market power, are likely to change dramatically if forbearance is implemented in Anchorage. Second, and perhaps more importantly, ACS ignores entirely its ability to raise retail prices by exercising its dominant control over the wholesale inputs used by CLECs – particularly GCI – in Anchorage.⁴

6. Given the paucity of reasonable near term (and in some cases longer term) substitutes for critical UNEs supplied by ACS, forbearance in Anchorage would enable ACS to both raise the price and restrict the supply of UNEs.⁵ Consequently, CLECs would be unable to serve many customers in Anchorage economically. Furthermore, to the extent CLECs could still obtain UNEs, CLECs would be compelled to pass along to the customers they are able to serve the higher costs associated with higher UNE prices. Alternatively, if CLECs were forced to use resold services with wholesale prices based on ACS' retail prices, ACS could raise its retail rates and force competitors to do likewise. Thus, forbearance would lead to unjust and unreasonable rates for retail consumers due to ACS' exercise of the market power it derives from its position as the dominant supplier of critical UNEs in Anchorage.

³ The Federal Communications Commission notes that one of "Congress's primary aims in the 1996 Act [was] to deregulate telecommunications markets to the extent possible." *Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Omaha Metropolitan Statistical Area*, WC Docket No. 04-223, Memorandum Opinion and Order, FCC 05-170, Adopted September 16, 2005 [*Omaha Decision*], ¶77.

⁴ As the Declaration of William Zarakas reveals, more than 80% of the switched lines in service in Anchorage employ ACS loops. More than 60% of GCI's switched lines employ ACS' loops.

⁵ In other words, forbearance would enable ACS to raise its rivals' costs, a well-known anticompetitive strategy. See, for example, Salop and Scheffman (1983, 1987), Salop et al. (1984), Krattenmaker and Salop (1986), and Krattenmaker et al. (1987).

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7. ACS suggests in error that: (1) GCI presently can serve most or all customers in Anchorage economically using either its own facilities exclusively or a combination of its own facilities and non-ACS facilities; and (2) such operation will constrain ACS' market power effectively. It is true that GCI is an exemplary CLEC that uses its own facilities extensively, and will increase such use in the future. However, extensive use does not imply exclusive use, nor does it imply an ability to transition all customers in the various residential and business product markets to non-ACS facilities. GCI continues to rely upon ACS for key UNEs, particularly unbundled loops. Moreover, the ability to transition to alternative facilities over time does not imply that the supply of loops is elastic in the near term. Denying GCI and other CLECs access to critical UNEs at regulated rates would preclude their ability to provide retail services at competitive rates in relevant geographic and product markets. Consequently, GCI and other CLECs would be unable to constrain ACS' market power in these markets. ACS would be empowered to raise CLEC costs to the point where CLECs would either be compelled to raise prices to their existing customers substantially or stop serving them altogether. CLECs also would be seriously handicapped in competing for new customers. Although these outcomes are highly favorable for ACS, they are highly unfavorable for both residential and business customers in Anchorage.

8. In addition to harming consumers in Anchorage, granting forbearance in Anchorage now would signal to CLECs throughout the United States that they will be punished for pursuing full facilities-based competition vigorously. Such a message is clearly contrary to the objectives of the Act. ACS' erroneous claim that GCI can serve most or all of its customers through exclusive use of its own facilities reflects the cursory observation that GCI has begun to serve some of its customers in this manner. Forbearance in Anchorage at the present time would send the chilling message to CLECs everywhere that the moment they demonstrate an emerging ability to serve some customers using only their own facilities (despite the ongoing need for upgrading the facilities at substantial cost and with considerable technical and logistical difficulty), they will either be compelled to serve all customers in this manner immediately or be exposed to the full fury of unconstrained ILEC wholesale market power. Such a message would seriously undermine the development of full facilities-based competition.